

CLAIMS

1. An apparatus for determining an optimum promotion plan for merchandising of products for sale, comprising:
 - a scenario/results processor, configured to enable a user to prescribe an optimization scenario, and configured to present the optimum promotion plan to said user, wherein the optimum promotion plan is determined by execution of said optimization scenario;
 - a demand engine, coupled to said scenario/results processor, configured to model relationships between potential prices of the products and market demand for the products, wherein said potential prices correspond to potential promotion events and potential supplier offers;
 - an activity based cost engine, coupled to said demand engine, configured to estimate demand chain costs for the products based upon said market demand;
 - and

a promotion optimization engine, coupled to said demand engine and said activity based cost engine, configured to employ said market demand and said demand chain costs to determine the optimum promotion plan, wherein the optimum promotion plan maximizes a merchandising performance figure of merit according to said optimization scenario, and wherein the optimum promotion plan comprises a subset of said promotion events and potential supplier offers.

2. The apparatus as recited in claim 1, wherein said scenario/results processor comprises:
an input/output processor, configured to acquire data corresponding to said optimization scenario from said user, and configured to distribute optimization results to said user; and
a scenario controller, coupled to said input/output processor, configured to control the acquisition of said data and the distribution of said optimization results in accordance with a promotion plan optimization procedure.
3. The apparatus as recited in claim 2, wherein said data is acquired from said user over the Internet via a packet-switched protocol.

4. The apparatus as recited in claim 3, wherein said packet-switched protocol comprises TCP/IP protocol.
5. The apparatus as recited in claim 2, wherein said data is interactively provided by and said optimization results are interactively distributed to said user.
6. The apparatus as recited in claim 5, wherein said data is acquired from a source electronic file and said optimization results are distributed to a destination electronic file, said electronic files being designated by said user.
7. The apparatus as recited in claim 2, wherein said input/output processor comprises:
a template controller, configured to provide first promotion plan optimization templates and second promotion plan optimization templates, wherein said promotion plan optimization templates are presented to said user to allow for prescription of said optimization scenario, and for distribution of said optimization results; and

a command interpreter; configured to extract commands from said first promotion plan optimization templates executed by said user, and configured to populate said second promotion plan optimization templates according to result data provided for presentation to said user.

8. The apparatus as recited in claim 7, wherein said first and second promotion plan optimization templates are provided according to hypertext markup language (HTML).
9. The apparatus as recited in claim 7, wherein said first and second promotion plan optimization templates are provided according to extensible markup language (XML).
10. The apparatus as recited in claim 7, wherein said first and second promotion plan optimization templates are provided as Java applets.
11. The apparatus as recited in claim 7, wherein said first promotion plan optimization templates comprise:
a plurality of new scenario templates, configured to enable said user to prescribe scenario parameters corresponding to said optimization scenario.
12. The apparatus as recited in claim 11, wherein said plurality of new scenario templates comprises:

a promotion event configuration template, for
prescribing said potential promotion events.

13. The apparatus as recited in claim 12, wherein said plurality of new scenario templates further comprises:
a supplier offer configuration template, for
prescribing said potential supplier offers.
14. The apparatus as recited in claim 12, wherein said plurality of new scenario templates further comprises:
a promotion scenario configuration template, for
associating said potential promotion events to the products, wherein said promotion scenario configuration template allows said user to specify a forward buy method, allowable potential supplier offers, rules that constrain said optimization scenario, and store merchandising capacities.
15. The apparatus as recited in claim 12, wherein said plurality of new scenario templates further comprises:
an optimization template, for specifying a promotion scenario and a time period for which the optimum promotion plan is to be determined.
16. The apparatus as recited in claim 7, wherein said second promotion plan optimization templates comprise:

an optimization results template, for providing said user with said result data corresponding to said optimization scenario.

17. The apparatus as recited in claim 16, wherein said result data comprises selected ones of said potential promotion events and selected ones of said potential supplier offers.
18. The apparatus as recited in claim 17, wherein said result data is presented graphically.
19. A method for optimizing a promotion plan for merchandising products, comprising:
utilizing a computer-based scenario/results processor within an optimization server to present a sequence of data entry templates to a user, whereby the user specifies an optimization scenario;
within the optimization server, modeling the relationship between potential prices of the products and market demand for the products, wherein the potential prices correspond to potential promotion events and potential supplier offers;

within the optimization server, estimating demand chain costs for the products according to the modeled market demand;

within the optimization server, employing the market demand and the demand chain costs to determine optimum promotion events and optimum supplier offers, wherein the optimum promotion events and optimum supplier offers maximize a merchandising performance figure of merit according to the optimization scenario; and

generating a plurality of optimization results templates and providing these templates to the user, wherein the optimum promotion events and optimum supplier offers are presented.

20. The method as recited in claim 19, wherein said utilizing comprises:
- acquiring data corresponding to the optimization scenario from the user; and
 - formatting the data into a format suitable for performing a promotion plan optimization according to the optimization scenario.
21. The method as recited in claim 20, wherein said acquiring comprises:

obtaining the data from the user over a data network
that employs a packet-switched protocol.

22. The method as recited in claim 21, wherein said acquiring further comprises:
employing TCP/IP protocol to obtain the data over the Internet.
23. The method as recited in claim 20, wherein the data is interactively provided by the user.
24. The method as recited in claim 20, wherein the data is acquired from a source electronic file that is designated by the user.
25. The method as recited in claim 19, wherein the data entry templates and the optimization results templates are generated in hypertext markup language (HTML).
26. The method as recited in claim 19, wherein the data entry templates and the optimization results templates are generated in extensible markup language (XML).
27. The method as recited in claim 19, wherein the data entry templates and the optimization results templates are generated as Java applets.
28. The method as recited in claim 19, wherein said utilizing comprises:

first providing a promotion event configuration
template, for prescribing the potential promotion
events; and
second providing a supplier offer configuration
template, for prescribing the potential supplier
offers.

29. The method as recited in claim 28, wherein said
utilizing further comprises:
third providing a promotion scenario configuration
template, for associating the potential promotion
events to the products, wherein said third
providing comprises:
specifying a forward buy method;
enabling/disabling certain ones of the potential
supplier offers;
adding rules and constraints to the optimization
scenario; and
indicating store merchandising capacities.

30. The method as recited in claim 19, wherein said
utilizing comprises:
providing an optimization template, for specifying a
promotion scenario and a time period for which the
optimum promotion plan is to be determined.

31. The method as recited in claim 19, wherein said generating comprises:
- providing an optimization results template, for
- supplying the user with scenario results
- corresponding to the optimization scenario,
- wherein the scenario results include selected ones
- of the potential promotion events and selected
- ones of the potential supplier offers.
32. A method for generating an optimum promotion plan, the optimized promotion plan corresponding to a set of products, a set of promotion events, and a set of supplier offers, the method comprising:
- within a centralized data base, storing product
- attribute and sales history data for a plurality
- of stores, wherein the product attribute and sales
- history data corresponds to the set of products;
- first employing a web server to allow a plurality of
- supplier computers to prescribe the supplier
- offers;

second employing a web server to provide a user computer with a plurality of scenario/result web pages, the plurality of scenario/result web pages enabling a user to prescribe the promotion events and constraints for generating the optimum promotion plan, wherein the user computer executes a thin web client to access the scenario/result web pages; and

determining the optimum promotion plan to maximize either net profit, revenue, or volume, wherein said determining uses both modeled market demand and estimated demand chain costs corresponding to the set of products.

33. The method as recited in claim 32, wherein said first employing comprises:
providing the scenario/result web pages over the Internet via a packet-switched protocol.
34. The method as recited in claim 33, wherein the scenario/result web pages are provided in hypertext markup language (HTML).
35. The method as recited in claim 33, wherein the scenario/result web pages are provided as Java applets.